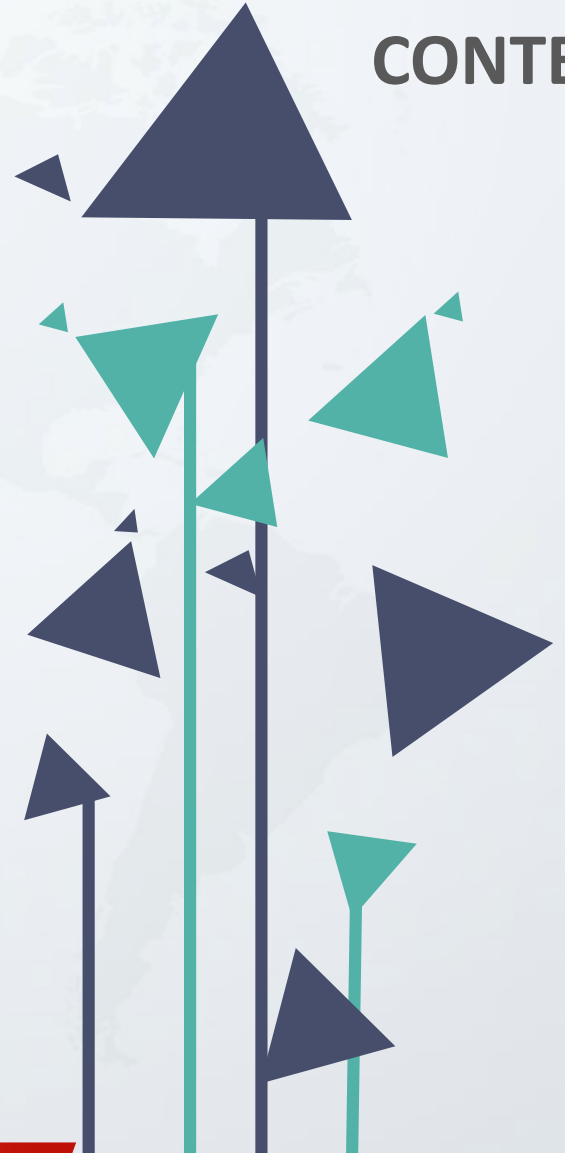




开放科学背景下的国际STM出版趋势

武汉大学信息管理学院数字出版研究所 徐丽芳 教授



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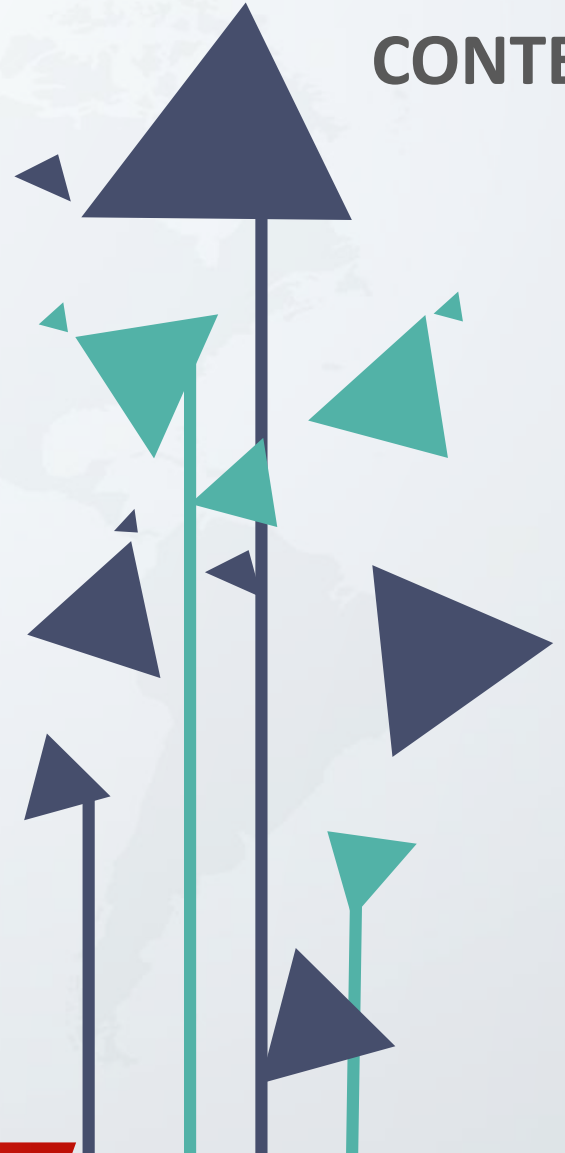
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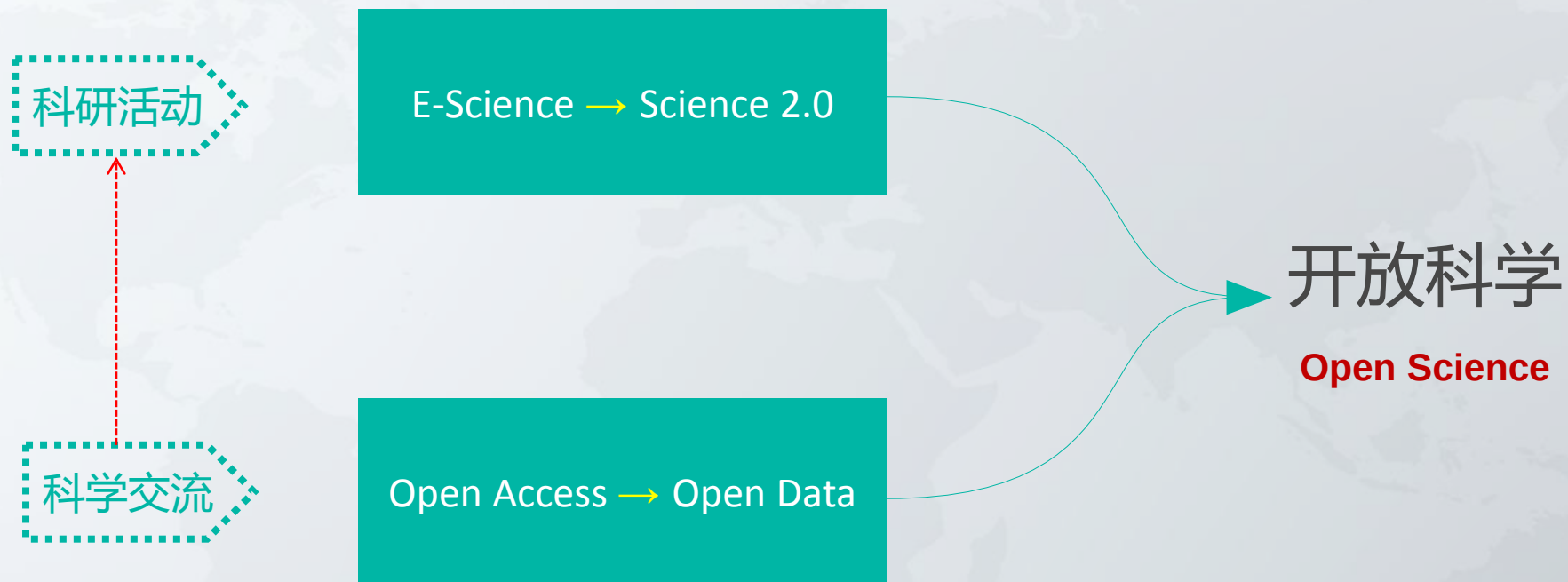
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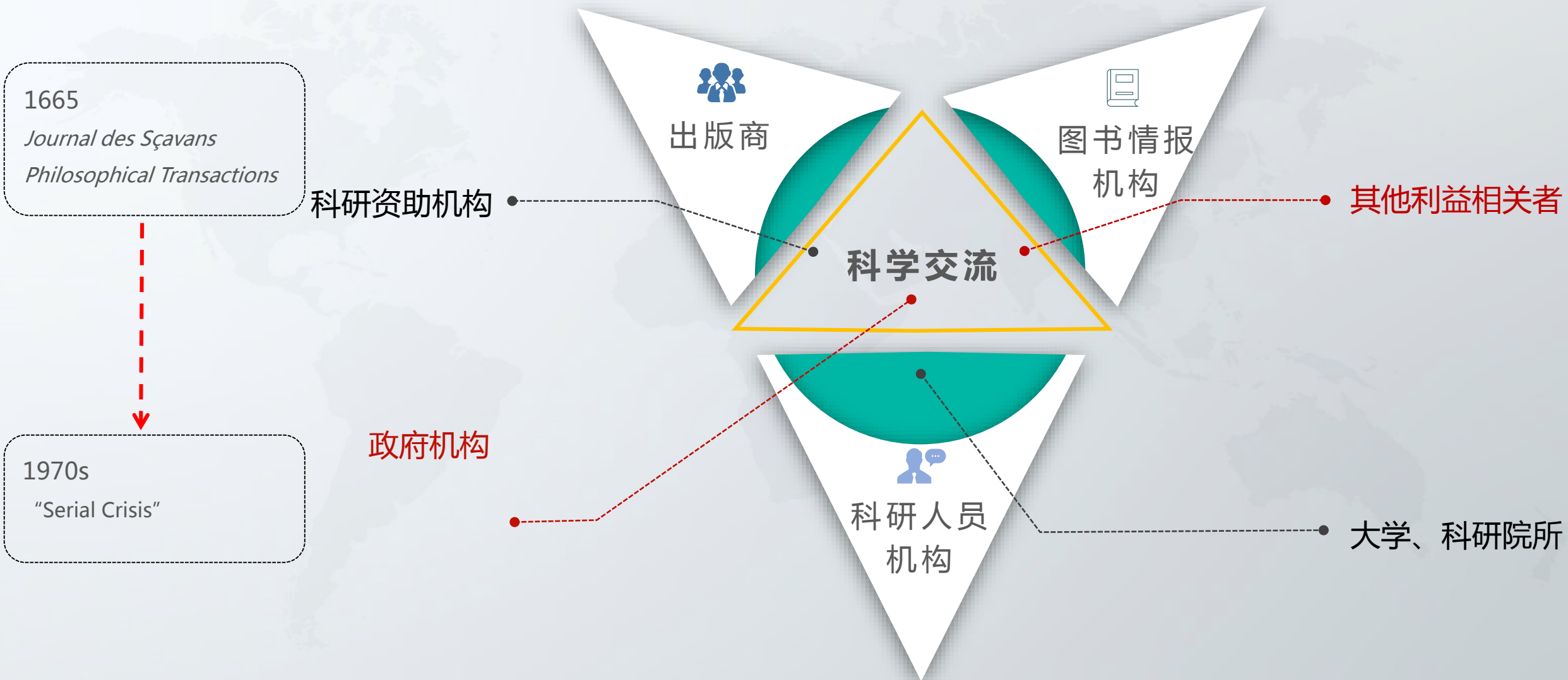
Challenges

开放科学的进路



source : 顾立平. 全球开放科学发展的比较研究 : 包容性与标准化的路径[J]. 数字图书馆论坛, 2021, 202(3): 32-39.

科学交流“金三角”及其他



开放科学利益相关者

Stakeholders key



Universities & Research
Performing Organisations



Policy Making
Organisations



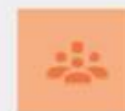
Researchers



Research Funding
Organisations



Publishers



Scientific Societies &
Academies



Research Libraries



Research &
E-Infrastructures



Citizen Scientists & Public
Engagement Organisations

Source: EU Open Science Policy Platform (#EUOSPP) Final Report: pp11

全球开放科学运动



联合国教科文组织总干事奥黛丽-阿祖莱指出：今天的关键优先事项是“确保开放科学不会重蹈传统封闭科学系统的覆辙。正是那些失败导致了人们对科学的高度不信任、科学与社会之间的脱节，以及国家之间和国家内部科学、技术和创新差距的扩大。(Azoulay, 2020)。

开放科学定义

在本建议书中，开放科学被定义为一个**包容性结构 (inclusive construct)**，它结合了各种运动和实践，旨在使每个人都能公开获取、使用和重用多语言科学知识，增加科学合作和信息共享，以造福于科学和社会，并向传统科学界以外的社会人士开放科学知识的创造、评价和传播过程。它包括所有的科学学科和学术实践的各个方面，包括基础科学和应用科学、自然科学和社会科学以及人文学科，并建立在以下关键支柱之上：开放的科学知识、开放的科学基础设施、科学交流、开放的社会参与者以及与其他知识体系的公开对话。

Source : *Drafttext of the UNESCO Recommendation on Open Science* , 2021-5

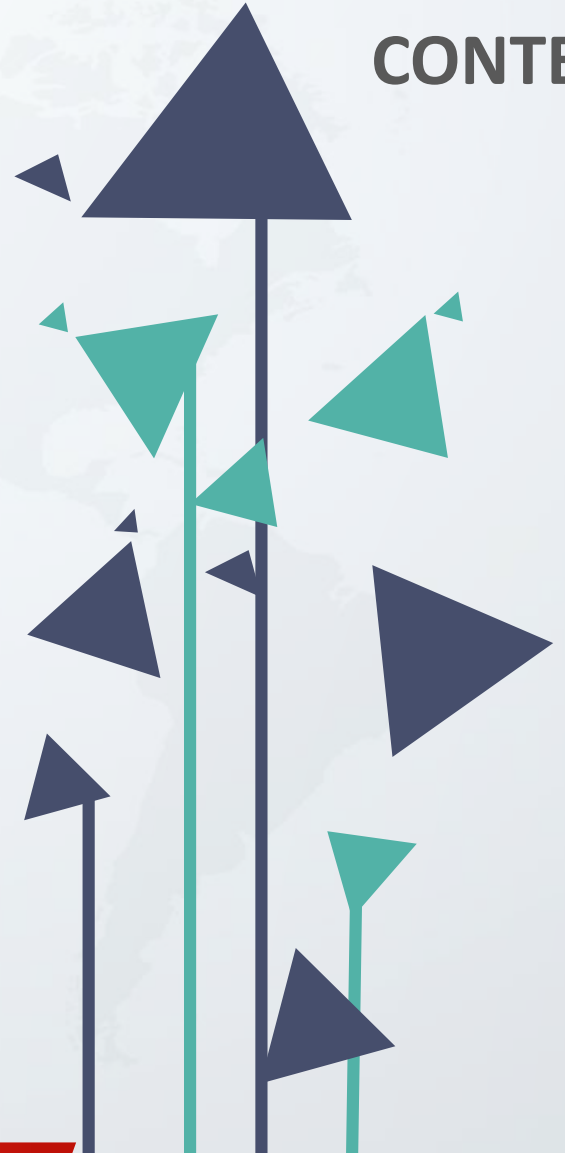
“开放科学”是一种以开放合作的工作、工具和知识传播为基础的科学过程的**方法 (approach)**。

source: Horizon Europe (2021) , Article 14

开放科学的边界

开放科学使人们能够广泛而直接地获取和使用公共资助产生的研究成果(例如，学术出版物和由此产生的数据集)。不仅对学术界，而且对私营部门和广大公众也是如此。





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期刊&论文

Scope of definition of 'journal'	Number reported and source
Scholarly journals	<u>104,081 (Elektronische Zeitschriftenbank)</u> 48,970 (Microsoft Academic) 47,116 (MIAR) 38,589 (Scopus)
Active scholarly journals	<u>56,689 (Scilit (Crossref based))</u> 35,616 (JournalTOCs) 34,779 (EBSCO host) 30,187 (Microsoft Academic) 25,017 (ERA journal list) 24,184 (Scopus) 21,420 (Web of Science)
Active scholarly journals, open access, not all guaranteed peer reviewed	37,333 (ROAD) 17,537 (JournalTOCs) 16,158 (Scilit (Crossref based)) 13,822 (Ullrichs)
Active scholarly journal, open access, peer reviewed	<u>15,581 (DOAJ)</u> 6,299 (Scopus) 4,762 (Web of Science)

Table 1. Global journal number estimates, checked November 2020. Numbers are as reported at the moment of checking and not for a particular year, except for Scilit where the numbers refer to 2019. Sources: Listed in table

Section 3— Participation, roadmap, and priorities

Participation statistics



Table 1

Content	As of Oct 2018	As of Oct 2019	% change
Total content items registered	100,774,749	109,440,179	9%
Number of journals	62,226	72,149	16%
Number of journal articles	73,957,459	79,777,806	8%
Number of books	1,285,818	1,380,292	7%
Number of book-related records	14,288,511	16,154,932	13%
Number of conference proceedings	62,190	68,280	10%
Number of conference papers	5,477,054	6,048,716	10%
Number of preprints	79,084	209,304	165%
Number of preprint-to-article links	17,883	28,729	61%
Number of reports	586,195	601,902	3%
Number of peer reviews	13,456	14,448	7%
Number of standards	257,470	302,891	18%
Number of components	3,454,155	3,862,214	12%
Number of databases	21,806	28,265	30%
Number of database-related records	1,704,946	1,866,629	9%
Number of dissertations	240,407	286,162	19%

Table 2

Connections	As of Oct 2018	As of Oct 2019	% change
Number of unique records with Funder IDs	2,431,939	3,238,513	33%
Records with one or more authors with ORCID iDs	1,950,216	3,089,447	58%
Total unique ORCID iDs	1,293,649	1,949,455	51%
Total works auto-pushed to ORCID	1,363,337	2,579,468	89%
Records with references	41,516,410	47,962,070	16%
Records with abstracts	2,707,893	5,093,507	88%
Crossmark content items	7,747,598	10,070,787	30%
Crossmark status updates	93,223	117,266	26%
Number of Cited-by matches	758,372,968	964,841,857	27%

Table 3

Metadata Retrieval	As of Oct 2018	As of Oct 2019	% change
Total Metadata Queries (av per month)	607,108,656	642,803,749	6%

Table 4

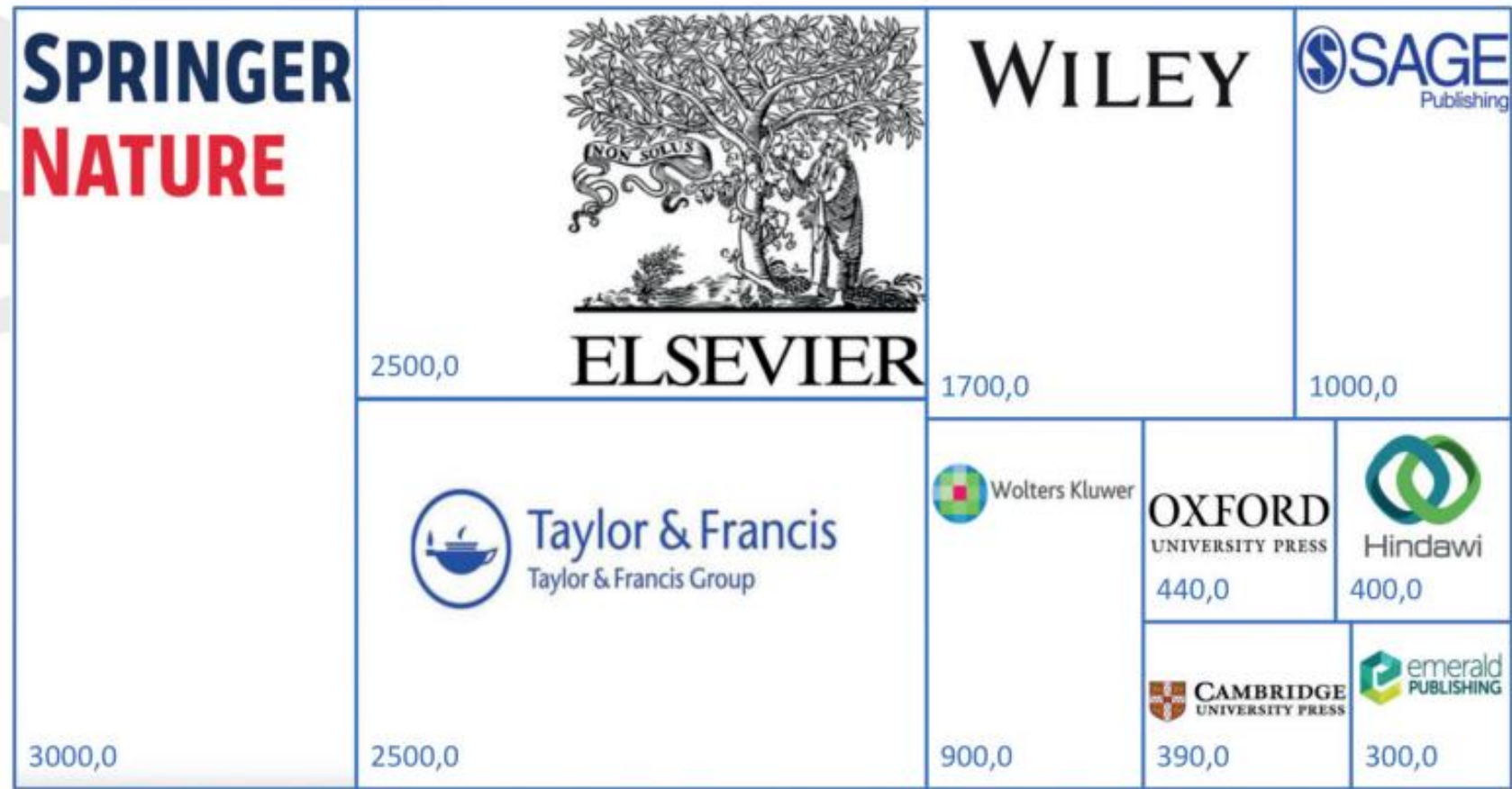
Similarity Check	As of Oct 2018	As of Oct 2019	% change
Members participating in Similarity Check	1,265	1,532	21%
Similarity Check – manuscripts checked	5,573,961	7,245,884	30%
Similarity Check – indexed content items	58,293,058	72,700,000	25%

Source: Crossref Annual Report 2018-2019, page 25.

十大STM出版商

据 CrossRef, 2019年, 11,000+出版商, 约60,000种期刊。

THE TEN LARGEST STM PUBLISHERS



Source : OVERVIEW OF STM RESEARCH PUBLISHING AND LICENSING PRACTICES , page 7

五大STM出版商概况（2020）

出版商	营业收入	利润率	期刊种数	文章数	图书种数
Elsevier	RELX , €71.1亿	RELX , 33% ; 爱思唯尔约占总利润 34%	2,960+	1800万+篇 140万+ (OA)	48,300+
Springer Nature	€16.3亿	2017年 , 22.8%	2,900+	776万篇	326,609
John Wiley	€14.91亿	19.4%	1,600+	363.2万篇	22,000+
Taylor & Francis	€5.6亿	38.8%	2,600~2,700种	467.2万篇	130,000+
Sage	\$1—5亿	-	1,000+	-	6,578

Source : 根据各出版商年报、官网等整理

OA图书和期刊

OPEN ACCESS AND TRENDS FOR BOOKS AND JOURNALS



Less than
1%
of all academic &
professional ebook
publishing



Approx.
13.7k
journals



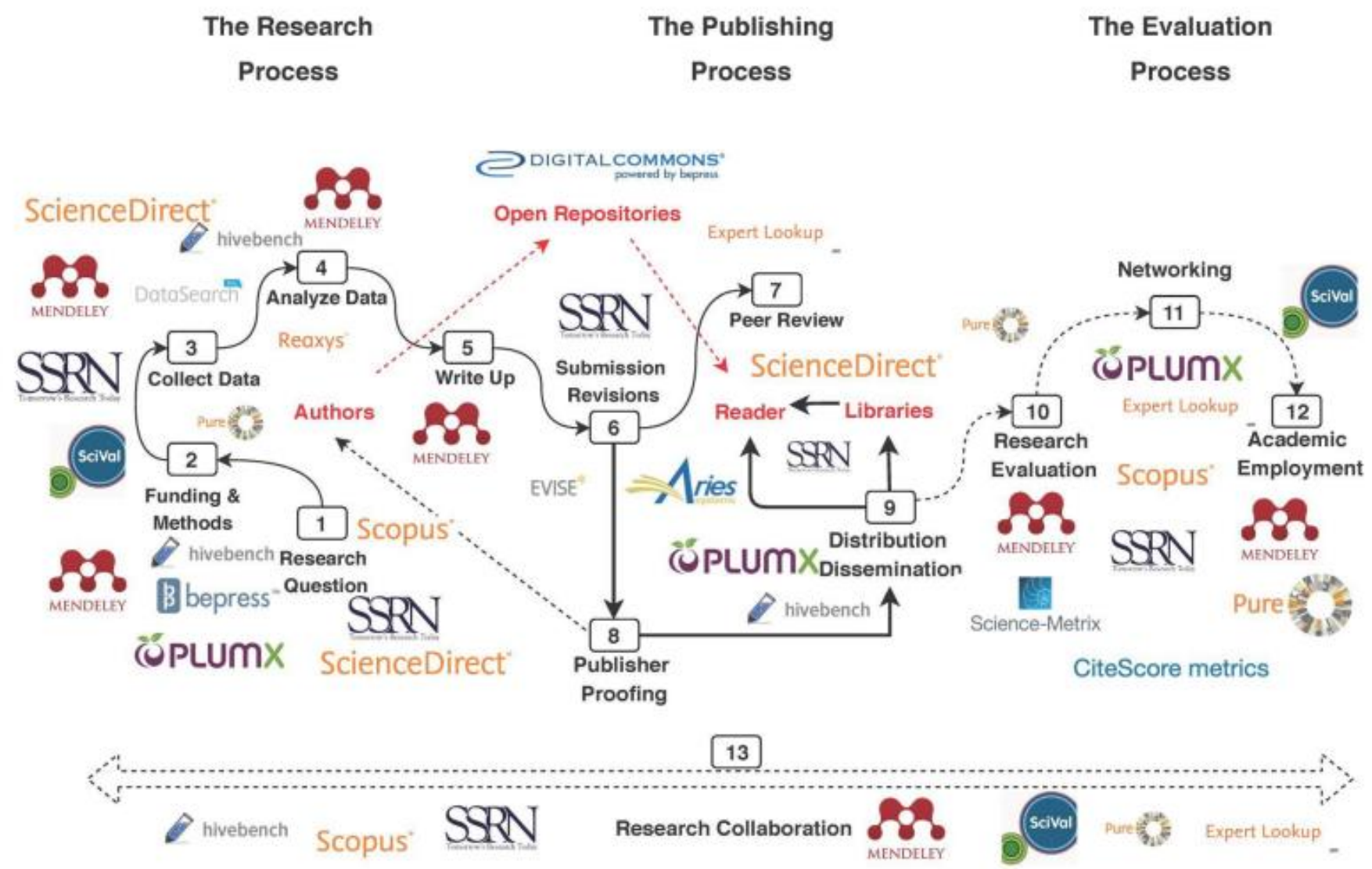
3/4
of journals
published
in English



20-30%
of articles across
all disciplines

- STM出版业持续整合

- ❑ 2012: Pure, a research information system that enables the planning, evaluation and reporting of research activities.
- ❑ 2013: Mendeley, a reference management and social scholarly platform with more than 3.5 million users. Mendeley now offers usage statistics for authors, competing with the services of Google Scholar, as well as a data sharing platform.
- ❑ 2016: Hivebench, an electronic lab notebook designed to assist researchers with data management.
- ❑ 2016: SSRN (Social Science Research Network), a preprint and publishing community which has more than 800,000 research articles, and recently expanded into the fields of Biology and Engineering.
- ❑ 2017: Plum Analytics, a leading altmetrics (alternative metrics) provider.
- ❑ 2017: Bepress, the provider of the Digital Commons institutional repository platform, which allows institutions to collect, organize, preserve and disseminate their intellectual output, including preprints, working papers, journals or specific articles, dissertations, theses, conference proceedings. Its cloud-based system, Digital Commons, has more than 500 participating institutes.
- ❑ 2018: Aries Systems, a publication solutions provider, used for manuscript submission, peer review, production tracking and e-commerce of journals, books and other publications.
- ❑ 2020年12月，爱思唯尔（Elsevier）收购了Shadow Health公司，该公司是医疗保健和护理教育领域的虚拟仿真开发商。



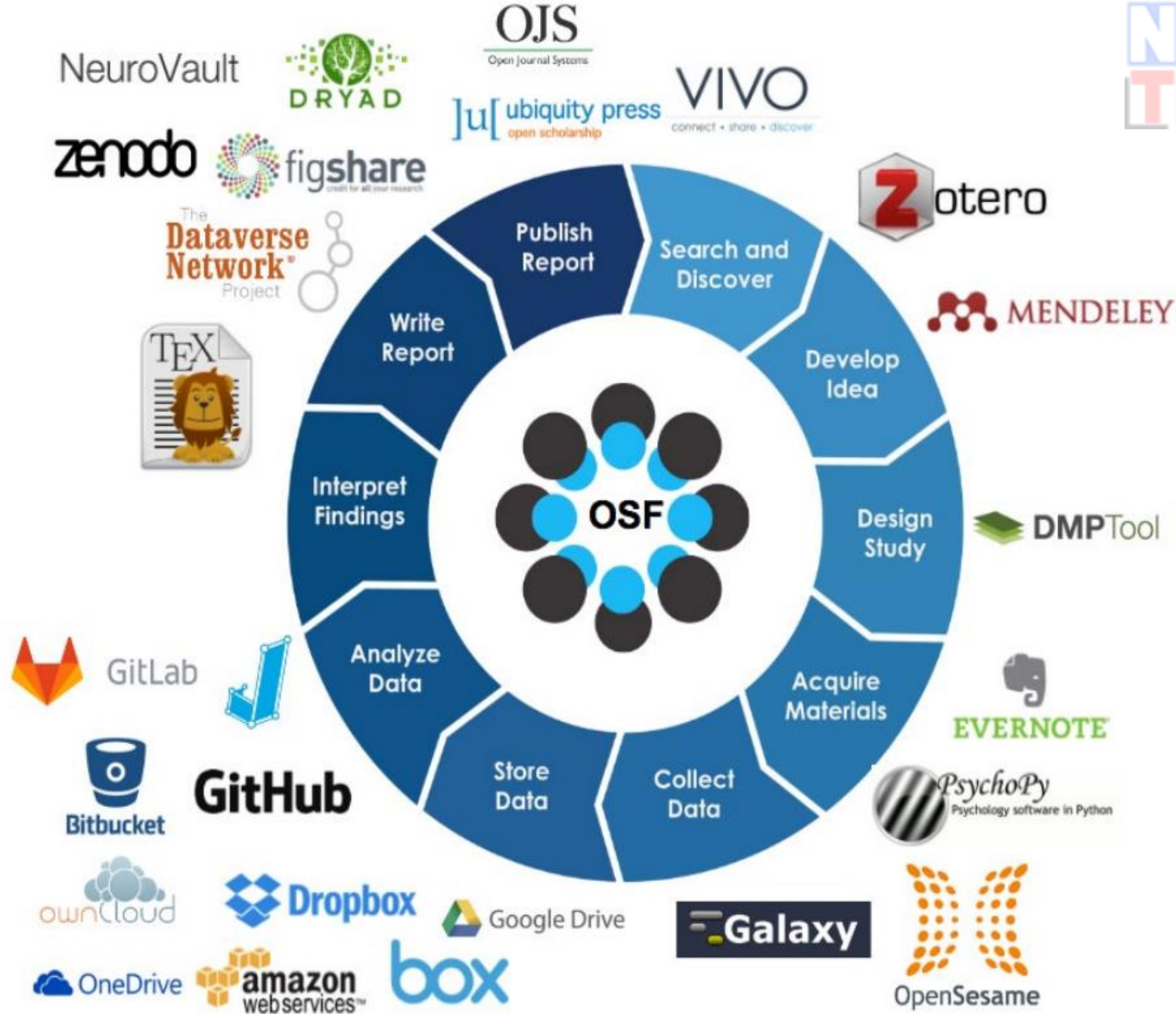
Source. Printed with permission. Chen, Posada, & Chan, 2019.



出版商业务转型：T&F



Taylor & Francis Online





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- 开放获取(PUBLICATION)



OA 模式

钻石/白金OA ? 金色OA ? 绿色OA ?



掠夺性出版(商)

单击此处添加文本具体内容，简明扼要的阐述您的观点。



OA是对所有人的OA吗？

目前国内有数家基础研究机构已经不能正常使用PubMed，“他们选择性地给你封掉”

- 数据与分析工具 ?

DATA 数据

软件 SOFTWARE

分析工具

LOREM IPSUM DOLOR LOREM

评估工具的挑战？

1) 数据用于科研人员聘任、晋升、绩效评价、资源分配

"当我们试图摆脱在评估学术交流中不加批判地使用这些文献计量数字的时候，我们决不能让这种做法在大学的其他业务领域站稳脚跟。"

San Francisco Declaration on Research Assessment (DORA ; 2019 , 1100机构 , 13000人) ; Leiden Manifesto (Hicks et al. 2015)

2) 数据/算法的质量和透明度

任何声称为研究提供数据和工具的系统都应该提供明确的信息，说明收集的数据类型、数据的结构、数据的来源以及如何提取和更新；对分析算法的要求同样如此。

3) 商业性第三方系统侵蚀大学等机构核心决策能力

专有公司倾向于建立定制的解决方案，以确保其中包含的数据不具有可移植性，因此在一个平台上运行的算法不能在另一个平台上运行，即使是相似类型的信息。FAIR原则 (The FAIR Data Principles) 提出一系列建议，以确保产生的任何数据对于人类和机器都是可查找、可访问、可互操作和可重用的。



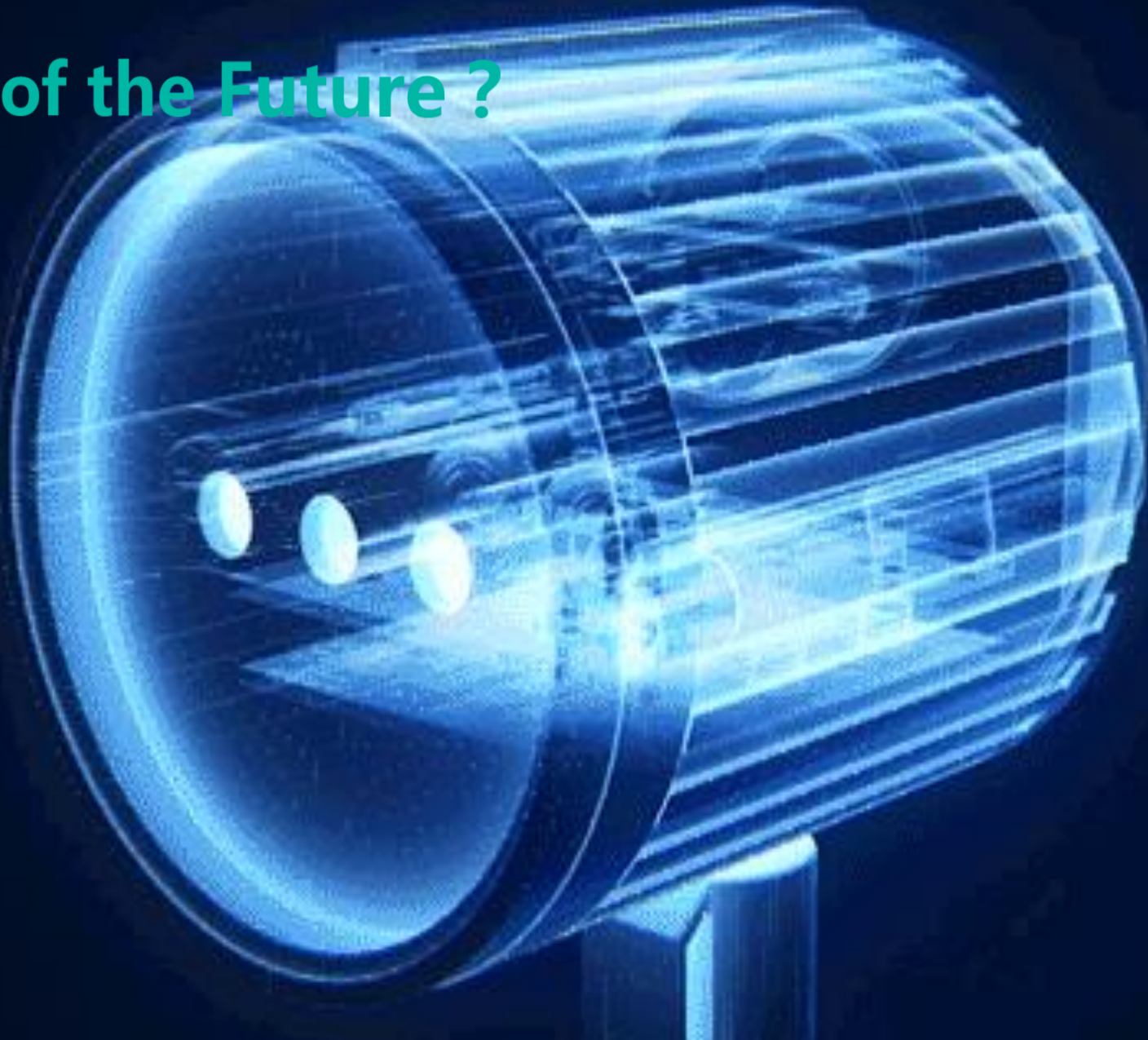
-- 案例



-隐私、安全？



- Articles of the Future ?



挑战与因应







THANKS

感谢您的聆听！